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**Abstract**

5 A multi-photon fluorescence microscope (M) with an excitation beam path comprising an objective (2) which focuses excitation radiation (1) in a focal point (4) in the sample (5), a scanning unit which shifts the focal point (4) at least one-dimensionally, and a detecting unit which picks up luminescence radiation stimulated in the sample by multi-photon excitation is described, wherein the detecting unit comprises an area detector (9) which is located on the side of the sample (5) opposite to the objective (2).

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Fig. 1